

REMARKS

In the Office Action, the Examiner rejected claims 1, 2, 7, 9-10, 15, 17 & 22 under 35 U.S.C. 102(a) as being unpatentable over German Patent No. 1,286,962 in view of Brouwer et al. in U.S. Patent No. 5,879,124. Claims 3, 11 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 1,286,962 in view of Ehmann in U.S. Patent No. 2,915,210. Claims 4, 12 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 1,286,962 in view of Ehmann in U.S. Patent No. 2,915,210 and Brouwer et al. in U.S. Patent No. 5,879,124. Additionally, claims 5, 13 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 1,286,962 in view of Ehmann in U.S. Patent No. 2,915,210 and Sinclair in U.S. Patent No. 3,782,503. Claims 6, 14 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 1,286,962 in view of Turturro et al. in U.S. Patent No. 3,233,768. Finally, claims 8, 16 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 1,286,962 in view of Nakagawa in U.S. Patent No. 4,382,604.

For reasons of clarity, the same paragraph numbering as used by the Examiner in the Official Action has been used throughout this response.

2. Claim Rejection – 35 USC § 103

Before discussing the merits of the Examiner's objections based on the prior art of record, the applicant suggests that it would be of some benefit to discuss piggyback forklifts in general and in particular the design limitations of such devices. The present invention relates to a forklift truck for mounting on the rear of a carrying vehicle, otherwise known as a piggyback forklift. These piggyback forklifts have numerous design characteristics and limitations that distinguish them from other standard forklift trucks. By and large, piggyback forklift trucks are lightweight forklifts with a high lift capacity relative to their weight. The forklifts are by necessity lightweight as any increase in the weight of the piggyback forklift has the direct consequence of reducing the total carrying capacity of the carrying vehicle which is highly undesirable. Any increase in the weight of the forklift also has the effect of increasing the forces exerted on the carrying vehicle by the piggyback forklift particularly during transit leading to increased wear and tear.

Generally speaking, these piggyback forklifts have a u-shaped chassis. By having such a u-shaped chassis, it is possible for the lightweight piggyback forklift to lift a heavy load by engaging the load between the legs of the u-shaped chassis as close to the center of gravity of the piggyback forklift as possible. This obviates the possibility of the piggyback forklift truck overbalancing and toppling over when attempting to lift a load and improves the maneuverability of the forklift when carrying a heavy load. Furthermore, this ensures that additional counterweights need not be provided to enable the piggyback forklift to lift a heavy load and allows the weight of the piggyback forklift to be kept to an absolute minimum.

Another advantage of the u-shaped chassis is that it is possible to mount the piggyback forklift on the rear of a carrying vehicle in a compact and neat manner. The side legs of the u-shaped chassis either fit underneath or alongside the carrying vehicle upon which it is mounted with the body of the piggyback forklift close up against the rear of the carrying vehicle thereby reducing the amount by which the piggyback forklift overhangs the rear of the carrying vehicle. This is most important as there are strict limits placed on the amount by which truck mounted forklifts may overhang the rear of the carrying vehicle. These limits are imposed usually through Governmental legislation as well as design considerations particular to such piggyback trucks. The design considerations in question relate mainly to the additional forces that are exerted on the individual components with increased overhang. For example, an increase in the overhang of a piggyback forklift increases the turning moment of the piggyback forklift on the rear of the carrying vehicle. This increased turning moment causes additional stresses on the mounting components including the forks of the piggyback forklift. In order to counteract the additional stresses it is necessary to reinforce the forks by using more heavy duty forks. This in turn increases the weight of the piggyback forklift truck which is undesirable as once again this reduces the load carrying capacity of the carrying vehicle.

The above considerations are not material to non-piggyback forklift trucks as these forklifts are not subjected to the same rigorous requirements as piggyback forklift trucks. For example, the weight of the forklifts is not a major consideration and therefore if it is necessary for the non-piggyback forklift to lift heavier loads the designers simply add more counterweights to the forklift. Similarly, the design of the chassis of non-piggyback forklifts is not as limited as the lift stability

may be achieved by incorporating additional counterweights onto the device and compact storage is immaterial. Finally, the amount by which the non-piggyback forklift would protrude from the rear of a carrying vehicle is not even a consideration for these types of forklifts.

Referring now to the Examiners comments in detail, the Examiner has rejected Claims 1, 2, 7, 9-10, 15, 17 & 22 as being unpatentable over DE1286962, cited by the applicant, in view of Brouwer et al (U.S. Patent No. 5,879,124). Referring specifically to independent claim 1 of the application, the applicant respectfully submits that the claimed invention would not be obvious to one having ordinary skill in the art in light of the combination of these documents as first of all, one of ordinary skill in the art would not be inclined to combine these documents in the first place and secondly, in the unlikely event of one of ordinary skill in the art combining these two documents, they would still not arrive at the claimed invention.

First of all, it is important to note that DE1286962 was cited by the applicant in order to comply with the duty of disclosure. DE1286962 has been cited in the European Search Report of the corresponding European Patent Application as being of technical background relevance only. DE1286962 describes a forklift truck having a fixed mast 4, mounting a boom 6, 7 that appears to be used for transporting goods 11. DE1286962 is not however a piggyback forklift truck within the meaning of the application and would be wholly unsuitable for that purpose. DE1286962 discloses a forklift truck of standard construction that does not have a U-shaped chassis. Therefore, the forklift could not be mounted on the rear of a carrying vehicle in the manner known to piggyback forklifts as without the U-shaped chassis, the forklift truck cannot be compactly stored on the rear of the carrying vehicle with the forwardly projecting legs either stored underneath the carrying vehicle or to one side of the carrying vehicle. As the forklift disclosed in DE1286962 is of a solid construction, in order to mount the forklift on the rear of a carrying vehicle, the forklift would protrude from the rear of the carrying vehicle by the entire length of the forklift itself.

As mentioned above, this is highly undesirable as the forklift would overhang from the rear of the carrying vehicle by a substantial amount which would not be permitted under normal regulatory provisions in most jurisdictions. Furthermore, this amount of overhang would cause a significant turning moment which would cause the forklift to overbalance a carrying vehicle particularly when the carrying vehicle did not have any other load, resulting in lift off of the front

wheels of the carrying vehicle in some cases. In addition to this, the stresses caused on the components of the forklift such as the forks would be significant and would almost certainly cause most normal forks to fail and would require extremely robust forks, which are heavy thereby increasing the weight of the forklift and significantly reducing the carrying load of the carrying vehicle. This is contrary to fundamental design principles of forklift trucks for mounting on a carrying vehicle.

Furthermore, as DE1286962 does not disclose a U-shaped chassis, the lifting weight of the forklift would be greatly reduced as loads cannot be lifted close to the center of gravity of the forklift between the front wheels and the rear wheel. In order to increase the lift capacity of the forklift disclosed in DE1286962, the designer would have to provide additional counterweights which, as mentioned above, increase the weight of the forklift and significantly reduce the carrying weight of the carrying vehicle. Finally, the lifting member 9 shown in DE1286962 is a very specific type of lifting member and would require alteration of the mounting mechanisms on the carrying vehicle that are required to mount the forklift on the carrying vehicle. Therefore, the person skilled in the art would not even consider the forklift truck described in DE1286962 as it is wholly unsuitable for use in the field of piggyback forklift trucks. Therefore, the person skilled in the art of piggyback forklift trucks would not be inclined to combine the teachings of DE1286962 and Brouwer et al. as DE1286962 is entirely unsuitable for use in the field of piggyback forklift trucks and would be disregarded as such from the outset and one of ordinary skill in the art would not be inclined to turn to its teachings.

In addition to this, Brouwer et al. describes a forklift that may be mounted on the rear of a carrying vehicle and in particular a forklift that may retract the rear wheel assembly in order to reduce the overhang of the forklift when mounted on the carrying vehicle. Brouwer et al. is aimed at reducing the amount by which the forklift overhangs the carrying vehicle and discloses how the combined length of the forklift mounted on the carrying vehicle without retracting the rear wheel assembly may be unduly long and the forklift may cause unacceptably high levels of leverage on the rear axle of the carrying vehicle (Col. 1, lns 15-26). One of ordinary skill in the art would not therefore be inclined to combine the teachings of DE1286962 and Brouwer et al as to do so would

increase significantly the length of the Brouwer forklift which is directly contrary to the stated objectives of Brouwer et al.

Furthermore, one of ordinary skill in the art, even if they did combine the teachings of DE1286962 and Brouwer et al., would still not arrive at the teaching of claim 1 of the application. As mentioned above, DE1286962 does not disclose a piggyback forklift as suggested by the Examiner and in fact is entirely unsuitable for such a purpose. Secondly, DE1286962 does not disclose a U-shaped chassis. The chassis of DE1286962 is rectangular in shape and therefore is an entirely different construction to that claimed in the application. The applicant can find nothing in DE1286962 to suggest that the drive unit is mounted on the other side leg (opposite the driver station) as asserted by the Examiner. Furthermore, the applicant submits that the boom described in DE1286962 is not telescopic within the meaning of the application as suggested by the Examiner as it is not retractable and extensible in the same manner of the telescopic boom of the present invention. The boom described in DE1286962 is a single frame member of fixed length that is slidable in the sleeve 6, this is not telescopic as suggested by the Examiner. Nowhere in DE1286962 does the applicant either suggest or hint at providing these features. Furthermore, it is respectfully submitted that nowhere in Brouwer et al. is there shown a forklift having a boom, let alone a telescopic boom similar to that described in the application.

The Examiner has suggested that one of ordinary skill in the art would be inclined to use the means for moving the mast back and forth between the side legs comprising mounting a mast to support frame pivot, tilting ram, rollers, mounting a support frame in each side leg and a frame moving frame connected between a rear leg and support frame for forklift vehicle length reduction for more easily carrying at the rear of another vehicle (sic). The applicant strongly rejects this suggestion. Nowhere in DE1286962 does the applicant suggest mounting the forklift on the rear of a vehicle. In fact, it has been shown above that the forklift shown in DE1286962 is entirely unsuitable for such a purpose. There is no motivation for one of ordinary skill in the art to modify the forklift of DE1286962 in this way as the forklift of DE1286962 is not in any way intended for this purpose and would not be suitable for such a purpose. This would require redesigning the entire chassis of the forklift described in DE1286962. Even, in the unlikely event of the one of ordinary skill in the art altering the entire chassis in this manner, they would still have the problem of the

boom of DE1286962 overhanging out the rear of the forklift when the forklift was mounted on the rear of a carrying vehicle, with the mast retracted on the chassis. This is due to the fact that the boom described in DE1286962 is not telescopic within the meaning of the specification and as it is of constant length it would protrude out the rear of the forklift and the carrying vehicle, thereby increasing the overhang of the forklift which is highly undesirable. In order to prevent this, the person skilled in the art would also have to redesign the boom as well as the chassis which is neither suggested nor hinted at by DE1286962 or Brouwer et al., either alone or in combination with each other.

As the prior art of record neither clearly discloses or suggests providing a piggyback forklift possessing all of the features of claim 1, the applicant respectfully suggests that claim 1 is patentable in light of the combination of DE1286962 and Brouwer et al.

Referring specifically to dependent claim 2 of the application, it is respectfully submitted that claim 2, dependent on independent claim 1, is also patentable in light of the combination of DE1286962 and Brouwer et al. by virtue of its dependency on claim 1. Furthermore, it is submitted that the arguments provided in respect of claim 1 above apply mutatis mutandis to claim 2. The person of ordinary skill in the art would not be inclined to modify the chassis of DE1286962 in this manner by combining the features of Brouwer et al. as the forklift of DE1286962 is in no way intended to be mounted on the rear of a carrying vehicle. Even, in the unlikely event of them doing so, they still would not arrive at the present invention as nowhere in either DE1286962 or Brouwer et al. is there described providing a telescopic boom and the boom of DE1286962 would protrude outwardly from the rear of the forklift, thereby increasing the overhang of the forklift on the carrying vehicle which is entirely unsuitable. In addition to this, the mast described in DE1286962 is a fixed construction mounted on the front of the forklift and it is not possible to tilt the mast within the meaning of the application. This tilt allows for simplified lifting and putting down of loads from the forks. Nowhere in DE1286962 is there shown or mentioned a need to provide a tilt feature to allow easier lifting and setting down of goods from the forks and nowhere is there suggested providing such a feature. Therefore, one of ordinary skill in the art would not be inclined to modify the mast of DE1286962 by placing it on a carriage and providing tilt facilities such as those described in

Brouwer et al. Claim 2 is therefore patentable in light of the combination of DE1286962 and Brouwer et al.

Referring specifically to dependent claim 7 of the application, it is respectfully submitted that claim 7, dependent on claim 1, is also patentable in light of the combination of DE1286962 and Brouwer et al. by virtue of its dependency on claim 1. Claim 7 introduces the feature of having a ground engaging wheel mounted adjacent the free end of the boom. It is clear from the application and in particular on page 6, line 25 to page 7, line 1 inclusive, that this wheel is mounted adjacent the free end of the boom in a position that enables the wheel to support the load and equalize the loading on the forklift, thereby reducing the movement causing the rear wheels of the forklift to raise off the ground. Nowhere in either DE1286962 or Brouwer et al. is there shown a forklift possessing such a feature and the applicant fails to see the basis for the Examiner's objection in this regard. Accordingly as neither DE1286962 or Brouwer et al. disclose or even hint at providing a piggyback forklift with all the features contained in claim 7, the applicant respectfully submits that claim 7 is therefore patentable in light of the prior art of record.

Having regard to independent claim 9, claim 9 contains all the features of claim 1 with the additional features of the forklift having only three ground engaging wheels and the upright mast being telescopic. It is respectfully submitted that the arguments provided in respect of independent claim 1 above apply mutatis mutandis to independent claim 9. It is further submitted that one having ordinary skill in the art would not under any circumstances have combined the teachings of DE1286962 and Brouwer et al. as these documents describe two entirely disparate forklift trucks of entirely different construction with entirely disparate aims and even in the unlikely event of the person of ordinary skill in the art combining these two teachings, they would be unable to arrive at the present invention as the documents DE1286962 and Brouwer et al. fail to disclose all of the features of claim 9. In particular, in addition to the missing features discussed previously, neither DE1286962 nor Brouwer et al. disclose a telescopic boom within the meaning of the present invention. The Examiner has asserted that DE1286962 discloses the feature of a telescopic mast. This is simply not the case. DE1286962 discloses a mast that is fixed in length and that does not expand or reduce in size in any way whatsoever. DE1286962 discloses a mast 4 that has a boom 5 slidably mounted thereon. There is nothing in either DE1286962 or Brouwer et al. that would

encourage the person of ordinary skill in the art to provide a telescopic mast within the meaning of the present invention. It is respectfully submitted therefore that claim 9 is also patentable in light of any combination of DE1286962 and Brouwer et al.

Referring specifically to dependent claim 10 of the application, it is respectfully submitted that claim 10, dependent on independent claim 9, is also patentable in light of the combination of DE1286962 and Brouwer et al. by virtue of its dependency on claim 9. Furthermore, it is submitted that the arguments provided in respect of claim 9 above apply *mutatis mutandis* to claim 10. The person of ordinary skill in the art would not be inclined to modify the chassis of DE1286962 in this manner by combining the features of Brouwer et al. as the forklift of DE1286962 is in no way intended to be mounted on the rear of a carrying vehicle and even in the unlikely event of them doing so, they still would not arrive at the present invention as nowhere in either DE1286962 or Brouwer et al. is there described providing a telescopic boom. The boom of DE1286962 would protrude outwardly from the rear of the forklift, thereby increasing the overhang of the carrying vehicle which is entirely unsuitable in piggyback forklift design. In addition to this, the mast described in DE1286962 is a fixed construction mounted on the front of the forklift and it is not possible to tilt the mast within the meaning of the application. This tilt allows for simplified lifting and putting down of loads from the forks. Nowhere in DE1286962 is there mentioned a need to provide a tilt feature to allow easier lifting and setting down of goods from the forks and nowhere is there suggested providing such a feature. Claim 10 is therefore deemed patentable in light of the combination of DE1286962 and Brouwer et al.

Referring to dependent claim 15 of the application, it is respectfully submitted that claim 15, dependent on independent claim 9, is also patentable in light of the combination of DE1286962 and Brouwer et al. by virtue of its dependency on claim 9. Claim 15 introduces the additional feature of having a ground engaging wheel mounted adjacent the free end of the boom. It is clear from the application and in particular on page 6, line 25 to page 7, line 1 inclusive, that this wheel is mounted adjacent the free end of the boom in a position that enables the wheel to support the load and equalize the loading on the forklift, thereby reducing the movement causing the rear wheels to raise off the ground. Nowhere in either DE1286962 or Brouwer et al. is there shown a forklift possessing such a feature and the applicant fails to see the basis for the Examiner's objection in this regard.

Accordingly as neither DE1286962 or Brouwer et al. disclose or even hint at providing a piggyback forklift with all the features contained in claim 15, the applicant respectfully submits that claim 15 is therefore patentable in light of the prior art of record.

Having regard to independent claim 17, claim 17 contains all the features of independent claim 1 with the additional limitations of the forklift having only three ground engaging wheels, the upright mast being telescopic, a support frame, a pivot mounting connecting the mast to the support frame, a tilting frame connecting the support frame and the mast, rollers mounting the support frame in each side leg and a frame moving ram connected between the rear leg and the support frame. It is respectfully submitted that the arguments provided in respect of independent claim 1 and independent claim 9 above apply mutatis mutandis to independent claim 17 and that the person having ordinary skill in the art would not under any circumstances have combined the teachings of DE1286962 and Brouwer et al. as these documents describe two entirely disparate forklift trucks of entirely different construction with entirely disparate aims. Even, in the unlikely event of one of ordinary skill in the art combining these two teachings, they would be unable to arrive at the present invention as the documents DE1286962 and Brouwer et al. fail to disclose all of the features of claim 17. In particular, neither DE1286962 nor Brouwer et al. disclose a telescopic boom within the meaning of the present invention.

In addition to this, the Examiner has asserted that DE1286962 discloses the feature of a telescopic mast. This is simply not the case. DE1286962 discloses a mast that is fixed in length and that does not expand or reduce in size in any way whatsoever. DE1286962 discloses a mast 4 that has a boom 5 slidably mounted thereon. There is nothing in either DE1286962 or Brouwer et al. that would encourage one of ordinary skill in the art to provide a telescopic boom and a telescopic mast within the meaning of the present invention. It is respectfully submitted therefore that claim 17 is also patentable in light of any combination of DE1286962 and Brouwer et al.

Finally, referring to dependent claim 22 of the application, it is respectfully submitted that claim 22, dependent on independent claim 17, is also patentable in light of the combination of DE1286962 and Brouwer et al. by virtue of its dependency on claim 17. Claim 22 introduces the feature of having a ground engaging wheel mounted adjacent the free end of the boom. It is clear from the application and in particular on page 6, line 25 to page 7, line 1 inclusive, that this wheel

is mounted adjacent the free end of the boom in a position that enables the wheel to support the load and equalize the loading on the forklift, thereby reducing the movement causing the rear wheels to raise off the ground. Nowhere in either DE1286962 or Brouwer et al. is there shown a forklift possessing such a feature and the applicant fails to see the basis for the Examiner's rejection in this regard. Accordingly as neither DE1286962 or Brouwer et al. disclose or even hint at providing a piggyback forklift with all the features contained in claim 22, the applicant respectfully submits that claim 22 is therefore patentable in light of the prior art of record.

3. Claim Rejection – 35 USC § 103

Having regard to claims 3, 11 and 18, all of which relate to the additional feature of the mast being a two part telescopic mast comprising a lower inner portion and an upper outer portion embracing the lower inner portion and an actuating ram housed within the inner portion and connected between the two portions, it is submitted that as claims 3, 11 and 18 are dependent on patentable claims 1, 9 and 17 respectively, then so too are claims 3, 11 and 18 both patentable by virtue of their dependency.

The Examiner has suggested that claims 3, 11 and 18 are unpatentable over DE1286962 in light of Ehmann (U.S. Patent No. 2,915,210). The applicant strongly disagrees with this assertion. By virtue of their dependency, these claims also contain all of the features of the claim from which they depend. Nowhere in either DE1286962 or Ehmann is there shown a forklift for mounting on the rear of a carrying vehicle, having a U-shaped chassis with the driver's station mounted on one of the side legs and a motorized drive unit mounted on the other leg, means for moving the mast back and forth between the side legs towards and away from the rear leg and a telescopic boom within the meaning of the application. These are all features of claims 3, 11 and 18 that are nowhere to be found in either DE1286962 or Ehmann. In fact, both DE1286962 and Ehmann relate to normal forklifts without the considerations of piggyback forklift trucks and are entirely different to the forklift described and claimed in the application. It is submitted therefore that as many of the features of claims 3, 11 and 18 are nowhere to be found in either DE1286962 or Ehmann, claims 3, 11 and 18 are patentable in light of any combination of DE1286962 and Ehmann.

4. Claim Rejection – 35 USC § 103

Having regard to claims 4, 12 and 19, all of which relate to the additional feature of the mast being a two part telescopic mast comprising a lower inner portion and an upper outer portion embracing the lower inner portion and an actuating ram housed within the inner portion and connected between the two portions, a pair of pulleys mounted on the outer portion and a pair of drive chains connected led around the pulleys and connected to the boom. It is submitted that as claims 4, 12 and 19 are dependent on patentable claims 1, 9 and 17 respectively, then so too are claims 4, 12 and 19 patentable by virtue of their dependency.

The Examiner has suggested that claims 4, 12 and 19 are unpatentable over DE1286962 in light of Ehmann (U.S. Patent No. 2,915,210) and Brouwer et al. (U.S. Patent No. 5,879,124). It is submitted once again for the reasons stated above that one of ordinary skill in the art would not combine the teachings of these three documents as each of the documents relate to entirely disparate fields and even in the unlikely event of a combination of these three documents, one of ordinary skill in the art would still not arrive at the present invention. The Examiner appears to have misinterpreted the function of the drive chains feature as claimed in each of claims 4, 12 and 19. These drive chains are used to raise and lower the boom relative the telescopic mast in the present invention.

The drive chains described by the Examiner and found in Brouwer for use in the shortening of a forklift are entirely different to those of the application. It is further submitted that neither of the remaining documents DE1286962 or Ehmann disclose a pair of pulleys and a pair of drive chains within the meaning of claims 4, 12 and 19 and there is no mention or hint in either of the documents of providing such a feature. Therefore, the applicant respectfully submits that as these features are nowhere to be found in these documents and any combination of these documents would not lead one of ordinary skill in the art to the present invention as claimed in any of claims 4, 12 and 19, these claims are deemed patentable in light of the cited prior art.

5. Claim Rejection – 35 USC § 103

Having regard to claims 5, 13 and 20, all of which relate to the additional feature of the mast being a two part telescopic mast comprising a lower inner portion and an upper outer portion

embracing the lower inner portion and an actuating ram housed within the inner portion and connected between the two portions, a pair of pulleys mounted on the outer portion and an endless drive chain led around the pulleys and connected to the boom. It is submitted that as claims 5, 13 and 20 are dependent on patentable claims 1, 9 and 17 respectively, then so too are claims 5, 13 and 20 patentable by virtue of their dependency.

The Examiner has suggested that claims 5, 13 and 20 are unpatentable over DE1286962 in light of Ehmann (U.S. Patent No. 2,915,210) and Sinclair (U.S. Patent No. 3,782,503). The applicant strongly disagrees with this assertion. By virtue of their dependency, these claims also contain all of the features of the claim from which they depend. It is submitted once again for the reasons stated above that one of ordinary skill in the art would not combine the teachings of these three documents as each of the documents relate to entirely disparate fields and even in the unlikely event of a combination of these three documents, one of ordinary skill in the art would still not arrive at the present invention.

First of all, none of the documents cited by the Examiner relate to the field of piggyback mounted forklift trucks and none of these documents show a piggyback forklift truck having a U-shaped chassis with a driver's station on one side leg and a motorized drive unit mounted on the other leg, means for moving the mast back and forth between the side legs towards and away from the rear leg and a telescopic boom within the meaning of the application. These are all features of claims 5, 13 and 20 that are nowhere to be found in either DE1286962, Ehmann or Sinclair. In fact, DE1286962, Ehmann and Sinclair all relate to normal forklifts without the considerations of piggyback forklift trucks and are entirely different to the forklift described and claimed in the application.

In addition to this, the Examiner would once again appear to have misinterpreted the purpose of the additional feature of these claims, namely the continuous chain as this chain is used to raise and lower the boom relative the mast and not to improve side to side stability with off center loads. Furthermore, the endless chain of the present invention is centrally located on the mast and would not operate in the same manner as the Sinclair chains. Finally the purpose of the single endless chain is to avoid the use of a pair of chains, unlike Sinclair. It is submitted therefore that claims 5, 13 and 20 are patentable in light of any combination of DE1286962, Ehmann and Sinclair.

6. Claim Rejection – 35 USC § 103

Having regard to claims 6, 14 and 21, all of which relate to the additional feature of the boom being slidably mounted by a sleeve on the mast and an actuating ram is connected between the sleeve and the free end of the boom. It is submitted that as claims 6, 14 and 21 are dependent on patentable claims 1, 9 and 17 respectively, then so too are claims 6, 14 and 21 patentable by virtue of their dependency.

The Examiner has suggested that claims 6, 14 and 21 are unpatentable over DE1286962 in light of Turturro et al. (U.S. Patent No. 3,233,768). The applicant strongly disagrees with the Examiner. First of all, neither DE1286962 nor Turturro relate to forklifts for mounting on the rear of a carrying vehicle or the problems associated with forklifts of this kind. Secondly, neither DE1286962 nor Turturro show a U-shaped chassis with a driver's station on one side leg and a motorized drive unit mounted on the other leg, means for moving the mast back and forth between the side legs towards and away from the rear leg. These are essential elements of the claims in question and are nowhere to be found in either of the cited specifications. Finally, Turturro does not disclose a sleeve slidably mounted on the mast within the meaning of the application. The feature indicated by the reference numeral 71 is part of the mast section itself equivalent in some ways to the outer mast section of the present invention and not a separate sleeve as indicated by the Examiner.

Furthermore, the ram of the Turturro patent is connected between the mast and the boom section, not the sleeve and the free end of the boom as claimed in claims 6, 14 and 21. The feature of the claimed ram in the application is to cause the telescopic boom to expand and contract whereas the feature of the ram 73 of the Turturro patent is to provide more stable lifting of heavy goods. A separate ram is provided by Turturro in order to expand and contract the boom. Therefore, there is nothing in DE1286962 or Turturro, either alone or in combination that would lead one of ordinary skill in the art to the features of claims 6, 14 and 21 and therefore claims 6, 14 and 21 are patentable in light of the cited documents.

7. Claim Rejection – 35 USC § 103

Having regard to claims 8, 16 and 23, all of which relate to the additional feature of a pair of laterally spaced-apart ground engaging wheels mounted adjacent the free end of the boom, each by a retractable ram, to raise and lower the wheel above and below the forks, it is submitted that as claims 8, 16 and 23 are dependent on patentable claims 1, 9 and 17 respectively, then so too are claims 8, 16 and 23 patentable by virtue of their dependency.

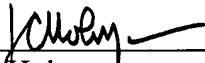
The Examiner has suggested that claims 8, 16 and 23 are unpatentable over DE1286962 in light of Nakagawa (U.S. Patent No. 4,382,604). The applicant strongly disagrees with this assertion. First of all, neither DE1286962 or Nakagawa relate to truck mounted forklifts with a U-shaped chassis with a driver's station on one side leg and a motorized drive unit mounted on the other leg, means for moving the mast back and forth between the side legs towards and away from the rear leg and a telescopic boom within the meaning of the application. These are all essential items of the present application which are nowhere to be seen in either DE1286962 or Nakagawa. Furthermore, there is nothing in either of these documents that would either suggest or even hint at providing such a feature. Furthermore, Nakagawa does not show a pair of wheels mounted adjacent the free end of the boom as claimed in the present application and there is nothing to suggest providing such a feature. Accordingly, the applicant suggests that claims 8, 16 and 23 are therefore patentable by virtue of the fact that neither DE1286962 nor Nakagawa either suggest or hint at providing a piggyback forklift having such features.

Based on the foregoing amendments and remarks, it is respectfully submitted that the claims in the present application, as they now stand, patentably distinguish over the references cited and applied by the Examiner and are, therefore, in condition for allowance. A Notice of Allowance is in order, and such favorable action and reconsideration are respectfully requested.

However, if after reviewing the above amendments and remarks, the Examiner has any questions or comments, he is cordially invited to contact the undersigned attorneys.

Respectfully submitted,

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